

FOUR NOTEWORTHY WISCONSIN PLANTS

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During several summers of botanizing in northeast Wisconsin, four vascular plant species new to the state's flora were discovered: two introductions, one native, and one problematic station.

Two European annual grasses, APERIA INTERRUPTA (L.) Beauv. and VENTENATA DUBIA (Leers) Coss. & Dur. (both of subfamily Pooideae, tribe Aveneae) were collected in a grassy ditch in Sobieski, a village in Oconto County, Wisconsin, about 25 km north of Green Bay. Spartina pectinata was dominant in the moist, clayey soil, and fill had been dumped in a vacant lot a few meters away. Other associates included Agrostis stolonifera, Asclepias syriaca, Carex vulpinoidea, Dactylis glomerata, Festuca pratensis, Lolium perenne, Medicago lupulina, Odontites serotina, Poa pratensis, and Salix interior. On 14 June 1981, plants of Apera and Ventenata from this site were in near-flowering condition, but by 5 July all individuals were dead and bore mature fruit.

Apera interrupta (long known as Agrostis interrupta L.), though well-established as a weed in the Pacific Northwest since the 1920s (Hitchcock & Cronquist 1973), has been collected only rarely east of the Rocky Mountains (McNeill 1981); the junior author has examined plants from Illinois, Missouri, Ontario, and Quebec. Apera interrupta might be confused with A. spica-venti (L.) Beauv., another casual European introduction into the United States, but can be distinguished by its erect (not spreading) panicle branches which tend to bear spikelets to their bases. In A. interrupta, the anthers do not exceed 0.5 mm in length, whereas in A. spica-venti they are at least 1 mm long.

Ventenata dubia is apparently new to the eastern United States. Baker (1964) first collected it for this continent from Kootenai County in northern Idaho; it has become locally well-established there and in neighboring Washington (Hitchcock & Cronquist 1973). Attempts to fit Ventenata into generic keys have not been too successful, probably because the plant combines characters of both tribes Poeae and Aveneae: the largest glume may be either shorter or longer than the lowest lemma, and the lemma-awns are both dorsal and (in the lower floret) terminal. The species bears a superficial resemblance to Danthonia spicata, Schizachne purpurascens, or a miniature Avena, but it can be distinguished from these and other grasses in our flora by the following characters: glumes with wide scarious margins, strongly 5-many nerved; upper floret(s) disarticulating below the bearded callus, the lemma with prominent apical teeth and a dorsal geniculate awn; and lemma of the lowest floret terminally awned (not awnless as reported by Gould, 1968, and in

generic treatments of Ventenata by Komarov, 1934, and Tutin et al., 1980), the awn of the same texture as the apical teeth of the lemma(s) of the upper floret(s). The lowermost floret is perfect-flowered, not staminate as reported. If the spikelets are 3-flowered, however, the small uppermost floret may have reduced sexual organs indicating sterility.

Both Apera interrupta and Ventenata dubia may be spreading in eastern North America; 1979 collections (J.-P. Bernard 79-86 & 79-87) of both species growing together at a golf course in Missisquoi County, Quebec were examined last year at US. The collector noted that the seed mixture for the area turf was probably introduced from the Pacific Coast.

JUNCUS STYGIUS L. was discovered on 4 July 1982 in Florence County, where a population of probably several thousand individuals grew in an open, boggy, possibly alkaline meadow just northeast of Grandma Lake. While bogs are quite common in northeast Wisconsin, this site is unusual for its abundance of tussocks of Scirpus hudsonianus and the extreme wetness of the sphagnum-sedge mat, this mostly under one to several inches of water. Besides the typical bog sedges, Drosera spp., and Sarracenia purpurea, uncommon associates include Arethusa bulbosa, Calopogon tuberosus, Carex livida (rare in Wisconsin), Lycopodium inundatum, Rhynchospora capillacea, Triglochin maritimum, and Xyris sp. Juncus stygius is a circumboreal plant represented in the New World by variety americanus Buchenau. This Wisconsin station is at the southern limit for the taxon, only about a dozen stations known for the extreme northern continental United States.

POLEMONIUM OCCIDENTALE Greene was also discovered on 4 July 1982 in Florence County, where a thriving and apparently spreading population of several hundred flowering and perhaps a thousand immature plants grow scattered throughout cut and uncut strips of a boggy Thuja occidentalis-Larix laricina-Picea mariana swamp. The species prefers the very wet, Picea mariana-dominated southern part of the tract, where groundlayer associates include Calla palustris, Carex lacustris, Equisetum fluviatile, and Saxifraga pennsylvanica. "Western Jacob's-ladder" is a widespread variable species (sometimes included in the Old World P. caeruleum L. as a variety) that had been previously recorded only once east of the Rockies, in a Thuja occidentalis swamp in northern Minnesota (Lakela 1965). Dr. Gerald B. Ownbey reports (1983 pers. comm.) that this station has not been relocated and may have represented a transient population. He also states that the Wisconsin plants appear to be identical to the Minnesota specimens, which have been described as Polemonium occidentale var. lacustre (Wherry) Lakela.

Whether the Wisconsin plants represent a native or accidentally introduced population is problematical. The tract was strip-cut for cedar in 1972 (U.S.F.S. personnel pers. comm.) and in the subsequent decade many forest rangers have visited the site to implement techniques that might encourage Thuja reproduction in the cut strips. Since many rangers are often flown on short notice to the western U.S. to help fight forest fires, the possibility of

accidental introduction of seeds of Polemonium by way of human agency is not negligible. That the plants are undergoing a manifest population explosion and are commoner in cut than in uncut strips lends credence to this suspicion. Arguing for nativity is the fact that the plants grow in a remote swamp far from any houses, and that rare, doubtlessly native species such as Carex gynocrates, C. tenuiflora, and Valeriana sitchensis ssp. uliginosa are also present.

Citations of specimens on which this report is based:

Apera interrupta (L.) Beauv.

OCONTO COUNTY, village of Sobieski, T26N, R20E, NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec 22, at SE corner of junction of Co. Hwy. S and Cross Rd., Judziewicz 2161 (WIS) and 2231 (WIS,GH).

Ventenata dubia (Leers) Coss. & Dur.

Same locality as previous species, Judziewicz 2162 (WIS) and 2232 (WIS,GH).

Juncus stygius L. var. americanus Buchenau

FLORENCE COUNTY, open bog on north end of Grandma Lake, T39N, R15E, Sec 34, Judziewicz & Solheim 3843 (WIS,MICH) and 3898 (WIS).

Polemonium occidentale Greene

FLORENCE COUNTY, swamp about one mile west of Lost Lake, T39N, R15E, NE $\frac{1}{4}$ Sec 11, Judziewicz & Solheim 3841 (WIS) and 3889 (WIS, MIN).

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